

## PATENT APPLICATION

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Confirmation No. 3460

Mitsuru UMEKIDA

Atty. Docket No. 100725-00102

Serial No.: 10/659,742

Examiner: Footland, Lenard

Filed: September 11, 2003

Art Unit: 3682

For: WHEEL BEARING DEVICE

FAX RECEIVED

MAY 05 2005

INFORMATION DISCLOSURE STATEMENT

OFFICE OF PETITIONS

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Date: April 8, 2005

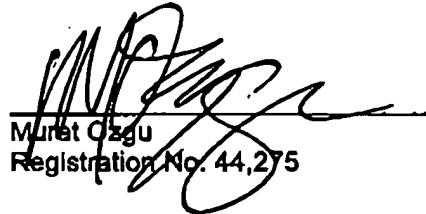
Sir:

Pursuant to 37 CFR §1.56, the attention of the Patent and Trademark Office is hereby directed to the information item(s) listed on the attached Form PTO-SB08. Unless otherwise indicated herein, one copy of each item(s) is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the item(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

- ☒ 1. This Information Disclosure Statement is being filed (a) within three months of the U.S. filing date, OR (b) before the mailing date of a first Office Action on the merits in the present application, OR (c) accompanies a Request for Continued Examination. No certification or fee is required.
- ☐ 2. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.
- ☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(1).
- ☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(2).

- ☐ c. A check in the amount of \$180.00 in payment of the fee under 37 CFR §1.17(p). Please charge any fee deficiency or credit any overpayment to Deposit Account No. 01-2300 as needed to ensure consideration of the disclosed information.
- ☐ 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Applicant(s) hereby petition(s) that the Information Disclosure Statement be considered. Attached is our check in the amount of \$180.00 in payment of the petition fee under 37 CFR §1.17(i)(1). Please charge any fee deficiency or credit any overpayment to Deposit Account No. 01-2300 as needed to ensure consideration of the disclosed information.
- ☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(1).
- ☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(2).
- ☒ 4. The references were cited in a counterpart foreign application. An English language version of the foreign search report is attached for the Examiner's information.

Respectfully submitted,

  
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Enclosures: PTO Form SB/08a w/4 listed references  
EP Search Report dated March 22, 2005  
Petition to Withdraw Patent Application from Issue  
Request for Continued Examination

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PTO/SB/08a (08-03)

Approved for use through 07/31/2008. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449A/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Form PTO/SB/08a

Complete if Known **RECEIVED**

|                    |            |
|--------------------|------------|
| Application Number | 10/659,742 |
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| Filing Date | September 11, 2003 |
|-------------|--------------------|

|                      |                 |
|----------------------|-----------------|
| First Named Inventor | Mitsuru UMEKIDA |
|----------------------|-----------------|

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| Art Unit | 3682 |
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| <b>Examiner Name</b> | <b>Footland, Lenard</b> |
|----------------------|-------------------------|

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| Attorney Docket Number | 100725-00102 |
|------------------------|--------------|

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|-------|---|----|---|
| Sheet | 1 | of | 1 |
|-------|---|----|---|

## U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

[illegible]

**Examiner  
Signature**

Date  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup>Unique citation designation number. <sup>2</sup>See attached Kinds of U.S. Patent Documents. <sup>3</sup>Enter Office that issued the document, by the two-letter code. <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST, 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language translation is attached. AB indicates that only an English language abstract is attached. 294887 1.DOC



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Europäisches  
Patentamt

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Recherchen-  
abteilung

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Office européen  
des brevets

Département à  
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Division de la  
recherche

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Date/Date

22.03.05

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|--|---|
| Zeichen/Ref./Réf.<br>EP16846 505SEP  | Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.<br>03255877.7-2421- |
| Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire<br>NTN CORPORATION |   |

## COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☐ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☐ abstract

☒ title

☒ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract

1

## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 03 25 5877

| DOCUMENTS CONSIDERED TO BE RELEVANT  |   |   |  |
|--|---|---|--|
| Category   | Citation of document with indication, where appropriate, of relevant passages   | Relevant to claim                                 | CLASSIFICATION OF THE APPLICATION (Int.Cl.7) |
| E  | EP 1 396 354 A (NTN CORPORATION)<br>10 March 2004 (2004-03-10)<br>* paragraph '0062! - paragraph '0072!;<br>figures 12,15 *         | 1,2   | B60B27/00                                    |
| E  | US 2004/022469 A1 (OZAWA MASAHIRO ET AL)<br>5 February 2004 (2004-02-05)<br>* paragraph '0065! - paragraph '0077!;<br>figures 3,4 * | 1-4   |  |
| E  | EP 1 398 181 A (NTN CORPORATION)<br>17 March 2004 (2004-03-17)<br>* claims; figures *   | 1   |  |
| A  | FR 2 795 021 A (NTN CORPORATION)<br>22 December 2000 (2000-12-22)<br>* abstract; figure 1 *   | 1-3   |  |
|  |   |   | TECHNICAL FIELDS SEARCHED (Int.Cl.7)         |
|  |   |   | B60B   |
| The present search report has been drawn up for all claims   |   |   |  |
| Place of search<br>The Hague   |   | Date of completion of the search<br>14 March 2005 | Examiner<br>Vanneste, M                      |
| <p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone<br/> Y : particularly relevant if combined with another document of the same category<br/> A : technological background<br/> O : non-written disclosure<br/> P : intermediate document</p> <p>T : theory or principle underlying the invention<br/> E : earlier patent document, but published on, or after the filing date<br/> D : document cited in the application<br/> L : document cited for other reasons<br/> &amp; : member of the same patent family, corresponding document</p> |   |   |  |

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 25 5877

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

14-03-2005

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
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## ABSTRACT / ZUSAMMENFASSUNG / ABREGE

03255877.7

A wheel bearing device to ensure a sufficient durability and life even with the application of bending moment acting on the wheel bearing device. An outer joint member (41) of a constant velocity joint is fitted into the inside of a wheel hub (10) and a portion thereof is swaged radially outward by plastic deformation to unite the wheel hub and the outer joint member. The outer joint member (41) includes a pilot part (35) adjacent the plastically deformed portion, and the ratio of an inside diameter  $\Phi d2$  of the pilot part to an inside diameter  $\Phi d1$  of the plastically deformed portion is set 1.110 or less.